THE

VETERINARY JOURNAL

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JANUARY, 1921.

MR. E. WALLIS HOARE, F.R.C.V.S.

It is with great regret that we note the death of Mr. E. Wallis Hoare, as thereby the veterinary profession has lost one of its most enthusiastic workers and one whose every thought was for its upward progress.

Graduating at the New Veterinary College, Edinburgh, in 1886, he became a Fellow in 1892 and occupied the position of Examiner to the Royal College of Veterinary Surgeons from 1901 to 1910. Previous to obtaining the British Diploma he had studied Veterinary Medicine in the McGill University, Montreal, and the American Veterinary Medical Association subsequently did him the rare honour of election as an Honorary Member. A keen and observant correspondent on all matters of clinical interest, and a very busy practitioner, it was simply astonishing how he found time to do all he did ; and it is to be feared that the tax he imposed upon himself had a great deal to do with his early death. To most men, to be the possessor of one of the finest and largest veterinary practices in Ireland, with a model Infirmary carried out on modern and up-to-date lines, would have been sufficient ; but to Wallis Hoare this was only the starting point and just something with which to fill in the day. For his recreation he still took up veterinary work and devoted his spare

time to literature and the teaching of the student. His work in the latter direction was recognised by his appointment to a Lectureship in University College, Cork, and to the positions respectively of Examiner in Class B to the Royal College of Veterinary Surgeons and of Veterinary Toxicology, Jurisprudence, and Sanitary Law in the University of Liverpool.

Of his writings, the third edition of *Veterinary Therapeutics* and his *System of Veterinary Medicine* will remain for some time to come as standard works, and as if that was not sufficient, he held for some time the editorship of a weekly paper, the *Veterinary News*. His opinion as a Consultant was much sought after by his brother practitioners, and in the witness-box his evidence was frequently seasoned with true Irish wit.

On the subject of the use of anæsthetics in veterinary practice he was an authority, and to the study of this he had devoted much time and money ; the adoption of the Junker principle of the administration of chloroform vapour to horses being one of his particular studies.

With the true Irish temperament of love of an argument, he was always ready to enter the lists in the correspondence columns of our papers, and it was " woe betide " a correspondent who left a weak spot in his armour, for Wallis Hoare was sure to find it—to the eventual mutual benefit of the writers and the profession.

Sound and earnest in his principles, and always working for the good of his profession and the cause of humanity in animals, his death leaves a blank which will be hard to fill ; and for hard, honest, work his life has been an example which our younger members of the present generation will do well to imitate.

Editorials.

THE VALUE OF CLINICAL REPORTS TO THE PRACTITIONER.

In commencing another year of Editorial work we feel that we are justified in drawing the attention of our readers to the great value to the student and practitioner of clinical reports, as it is largely by reference to these that exchanges of ideas are made and encouragement is given to make attempts at progress. The Veterinary Journal can claim to be the oldest existing veterinary periodical, having been founded in 1875, with the late Mr. George Fleming, F.R.G.S. (then Veterinary Surgeon to the Royal Engineers) as the first Editor, the contributor to its first page, curiously enough, being the late Mr. Wm. Hunting. Mr. Hunting's first article was on a clinical subject : " The Increase and Prevention of Glanders," a subject upon which he

became perhaps the greatest clinical authority, and his concluding remarks were an enquiry as to whether the public were aware that this disease was increasing gradually and surely every year.

His " clinical " was the forerunner to thousands of others, and for clear observations on cases occurring in actual practice there is no series more valuable for either student or practitioner to peruse than the bound volumes of THE VETERINARY JOURNAL.

Not only do English veterinary practitioners contribute, but the clinical columns of all the European and American veterinary periodicals are carefully searched to see that nothing of interest shall escape the notice of the profession in Great Britain. As proof of that one has only to read over in our last issue the indexing of the articles written in 1920, this index occupying a space of some 19 pages ; every head line denoting a case of interest to the practitioner. Our present number, too, is rich in clinicals, and that this side of veterinary science is especially catered for is obvious. As this has been appreciated in the past we ask our readers and correspondents to help to make it doubly so in the future. Original contributions of actual facts as they are met with in daily practice are the backbone of the reading for the successful practitioner ; and, after all, it was in order to endeavour to become this that he worked for and obtained his diploma and entered upon his life's career.

SALARIES AND ALLOWANCES IN THE INDIAN SERVICE.

IN our last two numbers we have ventilated some of the grievances of our *confrères* in the Indian Civil Veterinary Service and the Royal Army Veterinary Corps respectively, and as a further proof by which to verify them we publish on another page an abstract from the *Journal of the United Services Institution of India*, which shows that other branches of the Services in India also have complaints to make. They cannot all be groundless, and we of the civil element wish our *confrères* well in their efforts to obtain amelioration and to have their difficulties met fairly and adjusted.

To our young graduates, again, until these are put straight, we are bound to again utter a warning that they shall thoroughly consider all the *pros* and *cons* (and especially the future years) before committing themselves to the spending of their lives in any special Department, whether Government or Municipal. The prospects, when a man is middle-aged and has a family to educate and bring up, must be looked to, especially in these days when the professional classes have such keen competition financially with the manual labourer. Otherwise, " genteel poverty " may be the only future to be looked forward to as the accompaniment of a worrying old age.

RECOGNITION TO WHOM RECOGNITION IS DUE.

MANY men do good work but all do not get credit for what they do, and this truism exists in science as well as in other things.

Veterinary scientific workers, too, have not always got their well-deserved rights and in a small profession like ours we cannot afford to miss anything. It is therefore with pleasure that we give space to publish in a further column of this month's issue an article by a well-known resident of South Africa praising the work of Colonel H. Watkins-Pitchford, C.M.G., F.R.C.V.S., the late Bacteriologist to the Natal Government and formerly Principal Veterinary Officer for Natal, who is stated to have "done more for Natal and South Africa in the matter of scientific work in connection with stock diseases than any scientist who has ever been in South Africa." The finding, too, of the "Select Committee of Senators of the Union Government of South Africa to consider the spread and repression of the disease East Coast Fever," confirmed by Sir Arnold Theiler, after elaborate experiments at the Government Laboratory, was that "the Pitchford theory" was correct. Why then was it not adopted? And the reward to the veterinary scientist who saved South Africa millions of cattle and millions of pounds was what? For the answer we refer our readers to our columns.

THE PLIGHT OF VETERINARY SURGEONS.

To the Editor of THE VETERINARY JOURNAL.

SIR,—An excerpt of a note headed "The Plight of Veterinary Surgeons," which appeared in your issue of December 8, has been sent to me. The note, couched in very general terms, suggests a number of questions, among which are the following. Has the writer of the note consulted statistics respecting the horse population in all parts of the United Kingdom? Does he realise that the professional work of the veterinary surgeon ot to-day is not limited to the treatment of diseases of horses? Has he compared the total value of the live-stock of the country to-day with that ot, say, twenty years ago? Does he know the number of veterinary surgeons holding public appointments at home and abroad? And can he compare the present number with the number in any previous year he may care to select? Can he name a town of any size in which small-animal practice is "a sphere of unstable demand and of negligible value" when the practitioner chooses to specialise? Is the percentage of veterinary surgeons who relinquish their profession and seek other occupations greater than that of, say, medical men who act similarly.—I am, Sir, yours truly,

O. CHARNOCK BRADLEY.

Royal (Dick) Veterinary College, Edinburgh.
December 20, 1920.

General Articles.

SUGGESTIONS FOR IMPROVING CONDITIONS OF SERVICE IN THE INDIAN ARMY.*

By LIEUT.-COL. C. R. SCOTT-ELLIOT,
Commanding 1/61st K. G. O. Pioneers.

1. *Followers.* (Speaking of Regimental followers only). Bhisties, Cooks and Sweepers.—These are extremely difficult to get owing to the totally inadequate pay they receive. Their pay should be raised, and they should be eligible for Good Conduct Pay and Pensions. They should also be attested and *not* only enrolled.

2. *Rank and File.*—The pay is insufficient to attract the best recruits from the labour markets in spite of free rations—the civil labourer can earn anything from twelve annas upwards a day—the sepoys' pay works out to a fraction over 5½ annas a day; and I presume the cost of his rations may be considered four annas, as that is what he is allowed per diem if he does not draw rations—this brings it up to 9½ annas a day; the issue of the present bonus of Rs. 24 for every six months' service apparently recognises that the present pay is insufficient. I consider the sepoys' pay and that of non-commissioned officers should be raised by Rs. 4 a month and the bonus abolished. The extra payment of Rs. 4 monthly would be much more appreciated than having to wait until it had accumulated for six months.

(*b*) They should be entitled to free rations or an allowance in lieu for periods they are on leave or furlough; an allowance in lieu would be simpler, as it would be difficult to ration them in their villages.

3. *Barracks.*—These have improved considerably in the last twenty years and are a great improvement on the mud huts that used to exist. Greater improvement, however, is necessary in the way of structure, especially in the roofing and flooring. A recreation room and school, with necessary furniture, should be provided. An Indian Officers' "Club" in Indian Lines has been sanctioned. Charpoys or beds should be provided for all Indian Ranks at Government expense. Barracks should also be lighted free by Government; at present the sepoy has to pay for lamps and oil.

6. *British Officers.* (*a*) Provision of sufficient and better quarters in cantonments.

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* Abstract from an article in the July, 1920, Edition of the *Journal of the United Service Institution of India.* This illustrates the fact that other branches of the Service in India, like the Indian Civil Veterinary Department, are not contented with the present condition of affairs.—[Ed., Vet. Jnl.]

(*b*) All Officers travelling on leave to be entitled to Form E, and their families on these occasions to travel first-class on payment of second-class fare.

(*c*) Free passages home and out again every five years, provided they undergo instruction for a portion of time whilst at home.

(*d*) *Leave* out of India to count from date of embarkation on departure, until date of disembarkation on return. At present this is only for leave on Medical Certificate.

(*e*) *Pay.* Full staff pay to be allowed to the officiating incumbent in a privilege leave vacancy, and also to those officiating in vacancies caused by Officers at classes or absent on duty.

(*f*) *Passages.* Free passages to the United Kingdom or wherever they wish to settle should be given to Indian Army Officers and their families on retirement. At present this is only allowed to Officers of the Indian service compulsorily retired *otherwise than on account of age* (para 61 (b) A. R. I., Vol. X.).

(*g*) *Chargers.* If it is too much to expect chargers to be provided free and fed free, I consider Infantry Officers should be allowed to purchase them from Remount Depots.

(*h*) *Pensions:*

1. Those for Officers, I understand, are under revision.
2. The Indian Military Service Family Pension Fund. I hope this will be revised and the pension admissible to widows and children considerably raised.

   This fund is a very unsatisfactory one from the bachelor's and widower's point of view, as, although both are *compelled* to subscribe to it, the former gets nothing back when he retires, neither does the latter should his wife predecease him. This, I consider, calls for remedy.
3. A statement should also be published periodically showing how this fund stands. I do not recollect ever having seen such a statement.

EXTRACTS FROM FINDINGS OF THE SELECT COMMITTEE OF SENATORS OF THE UNION GOVERNMENT OF SOUTH AFRICA APPOINTED TO CONSIDER THE SPREAD AND REPRESSION OF THE DISEASE EAST COAST FEVER.

As reported in the Natal Witness, Wednesday, August 4, 1920.

"The prevalence of East Coast Fever has cost the country millions of pounds."

"It is possible to stamp out the disease in two years."

"The Transvaal Crown Colony Government of the day attempted to stop the disease by fencing off. . . . When it was realised that

fencing was not effective the Government resorted to the expedient of killing off herds, large and small, to such an extent that the northern districts of the Transvaal became almost denuded of cattle."

" Col. Watkins-Pitchford investigated the matter through scientific research, and made known to the world that only systematic dipping of cattle at short intervals in a solution which would kill the tick, procured the remedy for East Coast Fever.

" Sir Arnold Theiler then followed up Col. Pitchford's theory, and after elaborate scientific experiments at the Government Laboratory announced that the Pitchford theory was correct."

" The evidence adduced before your Committee has the outstanding feature of furnishing overwhelming proof of the efficacy of dipping and hand-dressing as recommended by Col. Watkins-Pitchford as the only antidote to effect the eventual eradication of the disease."

EAST COAST FEVER.

Recognition of Work done in the Direction of Overcoming Plagues in South Africa.

By GEORGE D. ALEXANDER.

I BELIEVE the most valuable work done for the good of agriculture in South Africa has been the work of those who have given us the means to combat the plagues which we have had to contend with.

South Africa has little reason to be proud of its attitude towards those who have done so much for the general good.

I could cite many incidents illustrating what I mean, but these articles have run to a much greater extent than I anticipated they would, and I will only mention a few.

Gilbert Wilkinson, of Ottawa, Natal, was the first to demonstrate that by the use of arsenic and treacle sprayed on the locusts in the hopper stage the plague of locusts could be combatted. The process was improved on, and a system established later, largely by the efforts of Mr. C. Fuller, the Natal Entomologist. The means of dealing with the locust plague was solved, and it has proved a godsend to the country. I believe Mr. Gilbert Wilkinson received a gold watch or a piece of plate subscribed by a few individuals.

The Hon. Joseph Baynes, C.M.G., who initiated the creamery industry at Nel's Rust, and who initiated the first successful bacon factory at Nel's Rust, introduced the first cattle dipping tank and advocated the adoption of dipping in the face of strong opposition, and by this action laid the foundation stone of making possible the eradication of East Coast fever (which Professor Koch stated would sweep from the Zambesi to Capetown) and other tick-borne diseases. It is through the introduction of the dipping tank that the quality

and value of cattle have increased so wonderfully, but for the means of controlling the tick plague there would be no high-class stock in the country. I have noticed writers attributing the advance in the improvement of cattle to agricultural shows, fat stock sales, etc., but that is a great mistake. Dipping has been the solution. Mr. Baynes received from a comparatively few farmers an album containing their signatures.

Col. H. Watkins-Pitchford, F.R.C.V.S., the late Bacteriologist to the Natal Government, and prior to that Principal Veterinary Officer for Natal, did more for Natal and South Africa in the matter of scientific work in connection with stock diseases than any scientist who has ever been in South Africa. To enumerate all that he did cannot be done in this article, but I will mention one or two of his investigations. His investigations into pleuro-pneumonia. His investigations into horse sickness (he was the discoverer of how horse sickness is conveyed). His investigation with Dr. Theiler into rinderpest (they produced the serum treatment which is now used wherever rinderpest appears, and which has made this terrible plague easily controlled). His investigation into tick destruction, which has solved the problem of how to eradicate tick-borne diseases, and has not only given the means to eradicate East Coast fever, but redwater, calf disease, gall sickness, opthalmia, botts, biliary fever and probably many others. He evolved a snake poison serum and prepared this, and it proved effectual for even the venom of the mamba.

At the Illerton Laboratory, Natal, where his investigations were conducted when he was not in the field, he was assisted by his brother, Dr. Watkins-Pitchford, who invented the "Isometer" for testing the strength of arsenical dips.

In Face of Disabilities.

His valuable investigations were carried out in the face of very great disabilities. Money to carry on investigations on a proper scale was never provided. Over a period of five years the total amount granted for investigation of diseases was £5,000, or at the rate of £1,100 per annum. Natal suffered from a succession of Ministers of Agriculture (with one exception, Mr. Clayton, and his efforts were nullified by a majority of his colleagues), who neither understood nor appreciated the value of scientific investigations, and with few exceptions all the members of the different Assemblies, both in the Upper and Lower Houses, were equally incapable of realising the importance of investigations.

I make this statement with full knowledge, because as President of the Agricultural Union at the period I refer to I approached the

Ministers and Assemblies and Councils on several occasions. In addition to the absence of funds there were continual pin-pricks from the Jacks-in-office of the Agricultural Department. I believe that when the dipping tank was erected in which Colonel Pitchford made his experiments in regard to dipping he was limited to £80, and though he did some of the manual labour himself, the cost came to more and he was told he would have to pay the difference out of his own pocket. Whether he actually did so I cannot say, but I would not be surprised.

When Union came about Colonel Pitchford, who was senior in service, was passed over and Mr. Theiler (he was not Sir Arnold then) was appointed. Theiler decided to close up Allerton, and notified Colonel Pitchford he would be required to go to Pretoria and work under him. This Colonel Pitchford declined to do, and resigned.

His valuable horse-sickness work and the finding of an immunising inoculation, which, I believe, was on the eve of being crowned with success, was lost to South Africa. His system of producing anti-venom serum was lost to the Colony (it cannot be obtained now). His valuable research work into tick-destruction has been lying pigeon-holed until the Select Committee dragged it out into light after ten years. To support this let me quote the evidence of Senator James Schofield given before the Select Committee (Page 90, Question 1,247) :

" I wish to draw attention to the neglect of the Department of Agriculture in not making known to the public the information in their possession pertaining to East Coast fever ; as an instance, take the very important report on ' Dipping and Tick Destruction,' Part IV., by Lieut-Colonel H. Watkins-Pitchford, which was sent to the Government before the writer left South Africa early in 1911. It was not until June 15, 1912, that only 500 copies were printed at Pretoria, whereas other publications were issued, as follows :— ' Prevention and Eradication of East Coast Fever,' Theiler and Christy, August 13, 1906, 5,000 ; ' Stygziekte and Lamziekte,' Theiler, May 1, 1912, 1,000 ; ' East Coast Fever,' R. W. Dixon, May 12, 1914, 1,500 ; ' Redwater and Gallsickness,' R. W. Dixon, July 12, 1917, 6,000.

" I made repeated applications for Colonel Pitchford's report, No. IV., before getting one, and from my knowledge of this report and his others I believe it would pay the Government to have thousands of them, instead of only 500, distributed in both languages."

Lost to South Africa.

I maintain that much of Colonel Pitchford's valuable work has been lost to South Africa through professional jealousy, and that the treatment he received from South Africa was enough to break any man's heart. I would like to draw attention to the fact that through his discovery of the medium of conveyance of horse-sickness and his

recommendation of burning smoke-producing material in stables and the knowledge acquired that the mosquito conveys the disease, and also the discovery of the three-days Laboratory Dip (not arsenite of soda) thousands of horses are saved annually from horse sickness.

By the discovery of the serum treatment for rinderpest the disease was eradicated, after a loss in Natal alone of 2,000,000 head of cattle in eight years, which, if valued at £5 per head, indicates a loss of £10,000,000, while in the Cape Colony and Free State all but wiped out the cattle. Through his investigations into East Coast fever and tick destruction he gave the country the solution of how to eradicate the disease; from which very many thousands of cattle have died since the disease appeared, representing a money value of millions of pounds. His reward from South Africa was to be placed in the position that he had to retire from the service. A few admirers presented him with a silver tea service. Thus was the gratitude of South Africa, and especially the agricultural community, exhibited.

When we see honours given to men whose only apparent service, as far as we know, is having managed to make more money than others out of manipulating the share market and services such as I have enumerated quite ignored, it makes one "furiously to think."

CONCLUSION.

The point I have tried to impress is that East Coast fever can be eradicated by consistently following out Colonel Pitchford's advice.

Several witnesses, in giving evidence, mentioned that, notwithstanding three days' dipping, the cattle still continued to die, and some farmers in Natal were stated by Theiler to have raised the question whether it was possible that, owing to constant dipping, we have been breeding a tick that is arsenic resistant? and Theiler went on to say, "I could not answer that question either in the affirmative or the negative."

I would like Sir. A. Theiler to inform me :—If, according to Colonel Pitchford, by adoption of three days' dipping with the Laboratory formula, no ticks, even if a few may have vitality left to lay eggs, are hatched out, now, then, ticks can become arsenic resistant?

Again, Theiler says :—"There is a possibility that we may have a chronic form of East Coast fever and that may explain why we have not been making headway in fighting diseases during the last ten years."

I would submit that it will be time enough to raise those issues when we have disproved what Colonel Pitchford proved, viz., that with a dip that will admit of continuous use every three days for an extended period (which arsenite of soda will not do), and will protect the animal for 72 hours (which arsenite of soda alone will not do), East Coast fever has been, and can be, eradicated, even on infected veld, and it

may not be necessary to discuss further, " Why we have not been making headway in fighting the disease during the last ten years."

Sir A. Theiler is a clever scientist and a hard worker. He also knows how to humour the farmer, but Sir A. Theiler has made mistakes in the past, mistakes fraught with serious consequences to the agricultural community. His initial attitude over dipping was one of them.

In the foregoing articles I have dealt with East Coast fever and tick destruction only, and I have only made passing reference to scab in sheep and horse-sickness.

I would like to point out before closing that Colonel Pitchford proved that scab in sheep could be eradicated with the three days' dip (Laboratory formula). Further, that to show the dip would not injure the sheep, he dipped a flock of sheep every week for sixteen weeks, with no bad effects to the sheep, which " remained in excellent condition."

With regard to horse-sickness. Although he does not refer to this in his pamphlet, he told me before he left South Africa that he believed that the three days' dip (Laboratory formula, including paraffin and soap) would prove a preventive against horse-sickness.

Preventive of Horse-sickness.

I understand from Mr. John Morley, Secretary of the Durban and Coast Society of Agriculture and Industries, that the military, while occupying the Show Ground in Durban during the war, dipped the horses and mules regularly with Col. Pitchford's formula, and that the number of animals sometimes reached a total of 8,000. At first the tank was inadequate, but latterly a first-class tank was erected. During the first year there were six deaths from horse-sickness, the second year two deaths, and after that no deaths. I understand Mr. Morley has written a report on this, which the Agricultural Department might do well to obtain and publish.

I believe that the three days' Laboratory dip (not arsenite of soda alone) will prove a preventive of horse-sickness, and that if this had been made known the enormous fatalities in mules and horses along the coastal districts of Natal and in Zululand during 1919-20 might have been prevented, or, at least, greatly minimised, by dipping or effective spraying every three days with Colonel Pitchford's formula.

I trust that this series of articles will have enlightened some as to the East Coast fever disease, and the possibility of eradication, and may direct attention to what I consider is the cause of the non-success of the Government in dealing with the disease. If I have only succeeded in creating some intelligent interest, and in removing some of the wrong impressions and apathy existing, I shall feel I have not written altogether in vain.—*Natal Witness.*

Clinical.

CHRONIC PERITONITIS WITH ADHESIONS IN A DOG.

By Major C. G. SAUNDERS, D.S.O., B.V.Sc. (Toronto), M.R.C.V.S., (*Worthing*).

The patient, a six-year old Samoyede dog, male, was brought in to the hospital with a history of intermittent attacks of persistent vomiting, foul breath and gradual loss of condition since about the beginning of July last, and also that about a week previous to his admission he was suspected of picking up and swallowing a pebble on the beach. Upon enquiry, it was found that picking up stones was not a habit with him and that he was not seen with the pebble in his mouth, but was seen to swallow something. Upon examination, the mouth was found to be in an advanced state of sepsis from decayed teeth, tartar, and ulcerated gums, and there was every indication that these conditions were having a deleterious effect upon the general health. The bodily condition was fair, but on the thin side, temperature normal, pulse rather weak and frequent. Palpation of the abdomen revealed no pain or tenderness in any region, but hard pressure in the gastric region produced vomiting, the vomit being fluid, clear and bilestained. The hindquarters were stained and soiled with liquid fæces, but the owner gave a history of constipation and difficulty of defecation. The gait was cramped and difficult, the back being slightly arched and the abdomen tucked up. There was a general air of lassitude and *malaise* about the animal and the expression was rather anxious. Diagnosis as to the actual abdominal condition was reserved until after *X*-ray examination, which was deemed advisable, as it was clearly something more than an ordinary case of gastritis, and the possibility of a foreign body could not be overlooked from the history of the case. With the double purpose of allaying the gastric irritation (on which it had no effect whatever) and making the intestinal tract more visible during the *X*-ray examination, large doses of bismuth sub-nitrate were exhibited. The mouth was cleaned up, the decayed teeth extracted and the tartar removed. By the kindness of a medical friend the patient was *X*-rayed, and a preliminary examination made with the fluorescent screen; followed by the making of a skiagraph. The *X*-ray showed up what appeared to be a dilatation of the intestine, and an exploratory laparotomy was decided upon as giving the patient the best chance of life. After proper preparation and with due regard to strict asepsis, the laparotomy was performed under morphia and chloroform anæsthesia. Considerable difficulty was experienced in gaining entrance to the abdominal cavity owing to the thickened condition of the parietal peritoneum and the adhesion of the great omentum along the line of incision.

The stomach and great omentum were stuck fast to the abdominal wall, and it was without a doubt the pull on the stomach from these adhesions that was responsible for the vomiting. The small intestine was matted together and in one place was constricted by a peritoneal band (thus causing the dilatation). The cæcum was pulled out of shape by adhesions and the bladder was closely united to the rectum. There was no exudate of any description, but the bowels themselves appeared rather congested, being of a much darker colour than usual. After carefully disentangling the intestines, freeing the stomach and bladder from their abnormal attachments, the wound was closed with two layers of sutures and dressed with an aseptic gauze and wool dressing, retained by an abdominal bandage. The patient recovered from the anaesthetic nicely and appeared to have stood the operation well, and a few hours afterwards was much brighter than he had been for some time past. He was eager for his nourishment, which consisted of fifteen minims of Bovinine every two hours, and which was retained. Twenty-four hours after operation the temperature was normal, pulse and respiration normal, condition excellent, apparently no abdominal pain and quite bright and cheerful. Six hours later he suddenly collapsed and died in a few minutes. *Post-mortem* showed nothing to account for the fatal termination; the intestines were normal in colour, no sign of peritonitis, wound beginning to heal nicely and every organ normal. At no time had he showed any evidence of shock, pain or exhaustion following the operation, and I am at a loss to account for the fatality.

This was a most disappointing case, although an interesting one, as there was no apparent cause for the peritoneal adhesions or why he should have died. The only consolation is that death from exhaustion was inevitable if operation had not taken place, and that he had his only chance of life.

A CASE OF ŒSOPHAGOTOMY IN A PUPPY.

By GUY SUTTON, F.R.C.V.S. and HAROLD STAINTON, M.R.C.V.S.
(*Kensington*).

A well-bred Airedale terrier puppy, aged from 10–12 weeks, gulped down the greater portion of a vertebra from the middle third of an ox tail. The mass was about the size of a pullet's egg, with several jagged processes, and lodged firmly midway between the pharynx and the entrance into the chest. It was extraordinary how such a large body had passed through the pharynx.

The appearance of the little animal was distressing. The obstruction had been in existence about forty-eight hours and the prognosis was distinctly bad. The skin over the mass was painted with iodine,

hair clipped off and the area anæsthetised with eucaine. An incision slightly over an inch in length was made through the skin parallel to the long axis of the neck and the distended œsophagus was exposed. This was then split in the same direction and stretched open by means of blunt hooks, the bony mass being extracted by the aid of a pair of toothed forceps, requiring a good deal of force and manipulation to effect its clearance. The area was again painted with iodine and the wound left unsutured and unbandaged. Rectal feeding was carried on by means of suppositories and forty-eight hours were allowed to pass before anything was given by way of the mouth. He was then offered and took readily a tablespoonful of warm sugar water. This was lapped from a saucer on the floor and apparently the whole escaped through wound. If any entered the stomach the amount must have been exceedingly small. The meal was repeated at the fourth, eighth and twelfth hour, the idea being to irrigate the wound from within outwards with this non-irritating solution and any which reached the stomach would be a valuable food. On the fourth day milk was offered at intervals and taken greedily, but escaped freely through the wound, and, in spite of the continued rectal feeding, the eighth day found the pup rolling in his gait and rising with difficulty. The wound was large and gaping, but it was quite sweet and free from suppuration. Whilst offering milk in the evening it was noticed that if a saucer was so held that the neck was extended and the head raised, the milk passed down the œsophagus without a leak. On lowering the head, however, escape occurred and was stopped by placing a finger below the wound and so damming the fluid back into the stomach. After an interval of two or three minutes the fingers could be removed with safety. The meal was repeated in about half-an-hour and the pup much refreshed. During the following days a good deal of nourishment was taken this way and the rectal feeding was discontinued. The puppy gained weight and vitality, and the wound, douched from within with sugar solution and painted without with iodine, healed rapidly and was completely closed by the twelfth day. The food was now minced raw beef and bread and milk and the puppy with every appearance of health returned home. The crux of the favourable termination of this case was undoubtedly the ability of the longitudinal incision in the œsophagus to remain closed and conduct fluid into the stomach when the neck was extended and the head raised.

The maintenance of a clean wound can be greatly attributed to the internal irrigation with sugar and water. It is a wound dressing which was in use in very ancient times and possesses, apparently, the cardinal virtue of being completely non-irritating.

RESULT OF A DOG AND PORCUPINE FIGHT.

By ADRIAN C. HOBDAY,
Tuxford, Saskatchewan, Canada.

I THOUGHT that perhaps the enclosed photograph might be of interest to the readers of THE VETERINARY JOURNAL, as it illustrates pretty forcibly the great damage which a porcupine can do to a dog.

The dog was a large cross-bred Newfoundland weighing 160 pounds, an excellent guard and one trained to do harness work. Late one

night, in company with a terrier, it attacked a porcupine, and after a stiff fight the latter was killed. Hearing the noise of the scuffle (as this all took place close to the door of my "shack") I went out with a lantern just in time to see the end of the combat. The porcupine was at its last gasp, but both dogs were properly "quilled." I took the terrier indoors and extracted his quills at once, as they were not very numerous, but the big dog ran away and I did not see him again until the next day. He was, as can be seen by the photograph, in a terrible state, and the inside of the mouth—the roof, tongue, palate—was so thickly studded with quills that I could not get a knife blade between them. It seemed to be one solid mass of quills. I attempted

to pull them out, some being so firmly inserted that pliers had to be used. Large and small, there were over a hundred quills, and just as we were finishing the dog collapsed and died.

AN INTERESTING POST-MORTEM EXAMINATION.

By W. R. McKINNA, M.R.C.V.S.
(*Huddersfield*).

The subject of this note was a fox terrier, much valued by his owner for rabbit shooting.

History.—The fox terrier had been in the owner's possession for some five months, and had gradually lost condition, until when brought for examination he was in an emaciated condition. The pulse was 140 beats to the minute, and this tachycardia never varied until the day of the dog's death. Respiration was frequent, both the inspiratory and expiratory efforts being very marked. There was no history of a cough, and auscultation revealed only a slight dullness on the right side of the chest.

The callus of a fractured rib was noticed and the owner volunteered the statement that the dog had been run over a short time before he got him, but had apparently been none the worse for his accident. Treatment was continued for a period of three weeks, but there was no alteration in the frequency of heart beat, or character of the respirations. At times, it was noticed that a peculiar "thud, thud" noise could be heard suggestive of the sound heard in cases of spasm of the diaphragm.

It was suspected that at the time of the accident to the dog, some six months previously, a partial rupture of the diaphragm had taken place with a resultant diaphragmatic hernia of some portion of the viscus.

The dog was destroyed, and a post-mortem examination made.

Post-Mortem Examination.—This revealed a remarkable condition, the chief points of interest being as follows :—

The right half of the diaphragm was absent, only the points of attachment remaining. The left half was normal. The thoracic and abdominal cavities were confluent, and contained about a pint of clear fluid. The whole of the liver was in the chest cavity, pushing the right lung far forward. The heart was much enlarged and the heart muscle very flabby.

In view of the condition of things as found at this examination, it is little short of marvellous that this dog lived so long after its accident, which undoubtedly was the cause of the lesions found. Up to a few days prior to his death, the dog was always fairly brisk and alert, and had a good appetite.

RADIAL PARALYSIS IN A DOG.

By W. R. McKINNA, M.R.C.V.S.
(*Huddersfield*).

THE fact that this condition is rarely met with in the dog, and that faradaic treatment met with so much success in this case, will perhaps prove of interest.

History.—The subject was an Airedale dog, 6 years old. First seen lame on returning from a ramble. He was in the habit of jumping gates and walls. When first seen lameness was not very marked, but became acute in a few days' time. The limb was dragged and the condition of " dropped elbow " could now be easily recognised. There was much pain on pressure over the axilla in the region of the brachial plexus.

Treatment.—Rest, gentle massage of the axillary region, and internal administration of aspirin, were prescribed, but after three weeks the lameness was even more marked than before. The extensor muscles of the elbow were atrophied.

Faradaic treatment was then commenced, and was followed by a great improvement in a week's time. Daily use of the battery and regulated exercise brought about a complete recovery in a month, the atrophied muscles regaining their tone and strength very rapidly.

The patient proved very amenable to the electrical treatment—a very helpful factor.

The injury to the nerve was probably caused by severe bruising of the axilla, brought about when the dog made a faulty jump.

REMARKS ON SKIN PIGMENTATION IN THE DOG.

By G. H. LIVESEY, M.R.C.V.S.
(*Hove*).

IN some kinds of dogs, especially the Airedale and Welsh terriers, it is a common thing as age advances to notice increased pigmentation of the skin, and at the same time a loss of the richer shades of colouring of the hair. This seems to be a natural process to some extent in all animals. But occasionally one meets with cases even in young dogs where as the result of skin-irritation and loss of hair, deep pigmentation is left as a result, disappearing again after a lapse of time. In a few cases the pigmentation remains permanent and may even extend in area, causing a progressive loss of hair. I have seen many such cases as a result of follicular mange. There are also cases of follicular mange which are very difficult indeed to diagnose where no pustules are formed, and the principal symptoms are progressive loss of hair, thickening of the skin, scaliness, and pigmentation, which is permanent. Possibly the demodex may be only demonstrated in

one out of ten such cases. All these conditions have been recognised and commented on for many years.

During the last twenty years, however, I have seen a very few cases that I should not like to classify with any of the above. I will describe a typical one. An old wire-haired fox terrier (about 10 years) had a small, nearly bald patch on the front of the neck, where his collar rubbed it. This, after being present for years, began to turn black, and spread. About a month later the coat became thin at the hinder end of the back, all the undercoat (or fur) being lost and the skin was noticed to be black where once it had been pink. In the course of a further couple of months the black area had extended down the sides of the hind legs and slightly along the tail, the flanks, and the front of the chest. The legs and feet and sides of the chest and shoulders were quite free. There was no moisture, no scaliness or scurf, *no irritation*, no smell and very little thickening of the skin. No demodex was found at any examination and no pustule was ever seen. Various remedies had been tried and many " hair restorers " used, but all to no purpose. At the outset the collar was destroyed and a new one, thoroughly disinfected, used in its place and then only when the dog was in the street. After a warm bath on one occasion it was noticed that at the edge of the extending black area, there was a faint inflammatory zone about an eighth across. This disappeared when the skin was dry. The dog is still alive and apparently enjoying the best of vigorous health.

This morbid condition of the skin is not to my knowledge dealt with in any veterinary text-book ; I am not aware that melanosis is a truly pathological condition apart from certain new growths, such as sarcoma. I should like to ascertain if it arises from some tissue change in the animal itself or is dependent upon the presence of some undiscovered animal or vegetable parasite acting as an external source of irritation.

THE SECOND INTERNATIONAL CONGRESS OF COMPARATIVE PATHOLOGY.

This Congress, to be held in Rome in April, 1921, will be a combined meeting of medical and veterinary scientists of all nations, and will include discussions on many subjects. Some of the title headings are :—" Influenza in Man and Animals," " Foot and Mouth Disease," " Cancer and Sarcoma," " Rabies," " Rinderpest," " Fowl Cholera," " Bee Disease," " Dibothriocephalus latus in Men and Animals," " Silkworm Disease," " Piroplasmosis," " Mange in Man and Animals." The subscription to the Congress is 40 lires, and further particulars as regards reduced rates for travelling, etc., can be obtained from Professor Nuttall, ScD., F.R.S., Cambridge.

NOTES ON CERTAIN CASES OF DERMATOMYCOSIS OF CATTLE.

By H. A. REID, F.R.C.V.S.,
Veterinary Bacteriologist to the Department of Agriculture, New Zealand.

Some rather remarkable cases of skin disease affecting cattle recently came under my observation. The subjects of the complaint were cattle of the Red Devon breed, kept under open conditions on a large station in New Zealand.

A similar case had been reported as occurring about eighteen months ago. I did not see it. The animal, a bullock, was slaughtered when *in extremis*, presumably from the deplorable state into which it had fallen owing to the extensive skin affection, though possible there may have been some superimposed ailment which had led to its moribund condition. Its body exhaled an intensely foul odour, and the skin presented the lesions shortly to be described. Further cases were reported some months ago. These I had the opportunity of seeing.

Six stud Devon bulls out of a herd of thirty-two animals were affected with a chronic dermatitis which had evidently commenced as a localised lesion on the loins, and had spread thence to the sides, abdomen and legs. A six months old calf was also slightly affected.

The lesions were peculiar and had evidently been present for some considerable time before being noticed. They consisted of a greatly thickened, cornefied epidermis, fairly easily detached in some places, firmly adherent to the subjacent tissues in others.

Removal of the scab exposed a moist, hyperæmic base, with a sticky, greyish exudate possessing a characteristic sour, musty odour. There did not appear to be any great amount of irritation. The affected animals did not respond to scratching, and removal of the scabs caused evident pain. Occasional lashing of the tail, as though to dislodge flies, though there were practically no flies about, it being late autumn, was the only indication of any discomfort.

Slight loss of condition, and some degree of fever—103.4 being the highest temperature registered—were also noted.

On my next visit a heifer had been found on the run very badly affected. She presented an extraordinary appearance. Almost the whole body seemed to be covered with the thick, greyish, epidermal scabs, which in some places had become heaped up and projected half to one inch from the surface of the body. The inside of the ears, around the orbits and nostrils, the thighs and abdomen, all

presented similar lesions, giving the animal, from a short distance, the aspect of being coated with mud, and recalling the appearance seen in a severe case of ringworm. The heifer was in poor condition and exhaled a putrid odour. She was destroyed as being worthless. I secured specimens from the skin, and also scabs from the affected bulls, which I collected in a sterile test tube.

Smears made from the exudate adhering to the scabs and examined microscopically presented a very striking appearance, the most notable feature being the mycelium of a mould collected together here and there in felted masses. Cocci were also present, but careful search failed to reveal the presence of the necrosis bacillus which it was thought might be implicated in the production of the lesions. Experimental inoculation of calves, by the process of rubbing some of the scabby material into the skin with or without previous scarification, led to infection with the disease.

On the fifth day following inoculation, the skin was seen to be hyperæmic, and on palpation the commencing eruption could be distinctly felt. Two days later the condition was well marked. The skin was rough and scabby—the scabs being firmly adherent. The hair over the inoculated surfaces had not been shed. In ten days' time typical lesions had been set up. The sour, musty odour was noticeable, the skin felt greasy, and was tender and painful to the touch.

The scabs could now be detached. Microscopic examination revealed the same appearance as in the original cases, except that the mould was not quite so luxuriant. It was invariably associated with the presence of cocci.

Other smaller animals, rabbits, guinea pigs and fowls, proved refractory to inoculation in any form.

Cultures made from the material collected from the skin gave rise to a profuse growth of staphylococci.

Special methods of cultivation for the isolation of the mould were undertaken. The most satisfactory of these consisted of enclosing a portion of the scab between two "moist chamber" slides sealed along the edges with wax. These were then placed in a sterile Petri-dish lined with damp blotting paper, and incubated in the dark at room temperature. Seven days later the mould had started to grow out from the edges of the scab in a very beautiful manner.

Inoculations from this culture were made on to plates of acid agar and gelatine. The agar plates incubated at 37° C. showed after twelve hours the growth of a white mould consisting of a mycelium of branching, septate hyphæ, showing chlamydospores.

With such literature as I had at my disposal, and with the aid of Coupin's " Atlas des Champignons Parasites et Pathogénes de l'Homme et des Animaux," I attempted to classify the mould, which corresponded most nearly with that of Epidermophyton Gallinæ (Megnin)—a fungus which cause favus of birds and is inoculable to rabbits, mice and the human subject, though not to rats. Dogs and cats are said to be susceptible, and, to a lesser degree, horses. Favus of man is said to be transmissible to cattle, though, so far as I can gather, naturally occurring cases in bovines have not been recorded. Attempts to infect cattle with pure cultures of the mould did not succeed, nor did infection result when it was combined with cultures of the staphylococcus. The weather was cold and rather wet, conditions which may be disadvantageous to artificial inoculation with moulds. It seems evident that the mould isolated could not have been that of epidermophyton gallinæ, unless modification of its normal nutritional material had rendered it innocuous to the species generally attacked. In the absence of expert advice, I am unable satisfactorily to decide these questions.

The disease set up by the artificial inoculation of cattle with material derived from the original cases, ran a benign course, and cleared up, without treatment in from four to six weeks.

Treatment of the old-standing cases with 2½ per cent. Creolin in water proved effectual, though tedious owing to the protection afforded to the organism by the thick scabs, which rendered the skin almost impermeable in some places of the dressing. Preliminary washing with soap and warm water, followed by the application of the warm antiseptic, yielded the best results.

A feature of the cases which requires explanation is the situation of the lesions on the loins. This appeared to be the predilection seat of infection in naturally occurring cases. The loins are the one part of the animal's body which should be less liable to infection, since they do not as a rule come in contact with the ground or other objects, and cannot readily be reached with the mouth or tongue except by other animals. On the other hand this situation affords a broad, level surface, upon which spores may fall and rest.

The disease did not seem to spread to any extent among the herd, and did not in the first place attack the legs and forearms—parts which might become easily infected by contact through the habit cattle have of " jumping " each other.

Starlings and other birds make a practice of perching on the backs of cattle in search of lice or other skin parasites. Is it possible that infection might have been conveyed in this manner ?

THE CASTRATION OF BULLS BY "CRUSHING."

By C. V. DALRYMPLE-HAY.
Deputy Commissioner (Retired) Madras; late President of Committee, Veterinary Hospital, Trichinopoly.

EMASCULATION of bulls by "crushing" has been in vogue in India for generations, and a more barbarous method cannot be conceived. Fortunately, it is not practised on our friend, the horse—at least, I have never heard of a single instance in Bengal, Punjaub, or Madras Presidency, where I was in the Madras Civil Service for over thirty years.

Horses are invariably "cut," except in a few places where the Afghan method of "malling" is adopted. This operation I have never allowed myself to witness. I understand it is very painful, and consists in severing the seminal duct by actual massage, leaving the testicles intact. I am also informed that the operation is not a long one, but that inflammation sets up within a few hours, and that the animal suffers terribly for days. It would be interesting if one of your readers who has seen this operation would kindly describe it in the VETERINARY JOURNAL.

"Crushing" the testicles of bulls is done at the age of about two years, and at a time when there is green grass available. The subjects to be operated on are led into the village square, back-yard, or selected field, thrown, and then pounced on by willing hands, each telling the other what to do and what not to do!! And midst much chattering and singing, the poor beastie is "added to the list"—a slow and very painful operation, as evinced by the groaning of the unfortunate animal.

It was precisely just such a crowd that attracted my attention the only time I ever let myself witness a case of "crushing." There lay the poor brute with all four legs tied. The operator started by placing a plank below the scrotum, and then massaged the latter with the palms of his hands. This he did for about half-an-hour when he rang the changes by tapping the scrotum with a smooth ruler until the contents were, as he said, "melted." This would be in any time from half an hour to one hour! When completed, the unfortunate patient was released, beaten till he stood up, and then led away. No after treatment is required, beyond letting the animal stand in water up to the scrotum, which it is made to do for from two to four hours a day, provided there is a stream in the village, which more often than not is not the case; failing which, the scrotum has "neem-oil" smeared over it once or twice a day, and it takes about three weeks for the case to be fit enough to walk about freely.

One can judge, then, how the operation of castration of bulls by ligature "caught on" when I was able to demonstrate to the farmers

that in a very few minutes the operation was over, and also that the bullock at once began to graze, being able to walk a few miles to his master's house, from whence he would return two days later for the one and only washing out of the scrotum which, as a rule, was necessary.

I think I may claim that it was my voice, in the wilderness of the Madras Presidency, that cried with a view to putting a stop to "crushing" and the evil of branding, about each of which I have spoken often at meetings of the S.P.C.A. in the Madras Presidency, where in my long service I castrated thousands of animals for the farmers without a single death, I have taught many Hospital Assistants to perform castration with a view to burying in the past this horribly cruel method of "crushing," which should be condemned in all civilised countries. It is one of the things, too, which are put down as accursed in the Levitical Law.

INTERNAL PARASITES IN ELEPHANTS.

By M. C. GUPTA,
Veterinary Graduate, India (c/o McGregor & Co., Tourgoo)

Diseases due to internal parasites are amongst the most important one has to treat in elephant practice. Sometimes animals die suddenly and the cause of death cannot be ascertained unless a post-mortem examination is held. On opening the bowels enormous quantities of worms are discovered.

Natural Infection.—The infection generally comes from fodder or stagnant, marshy water; also by drinking water contaminated by the fæces of an infected elephant, as the eggs are continually being passed out.

Symptoms in General.—Every elephant has a few parasites, but unless they are very numerous there are no functional disturbances, and a moderate invasion may cause no loss of condition. I need hardly say that the symptoms due to different parasites are often exhibited in the same case. The first prominent symptom visible in an elephant is that the animal resorts to eating a large quantity of mud, which is otherwise called "Earth hunger." Irritation of the bowels sets in, followed by a brisk purging, which is generally watery and dark coloured, containing large quantities of worms. Any debilitating disease may be a predisposing cause and prepare animals for infection. When the case becomes sub-acute there are digestive disturbances of an indefinite nature—then anæmia stands in the foreground of the clinical picture. In chronic cases debility and emaciation become more and more marked. The skin becomes dry and broken in some parts, and in advanced cases the extremities show œdematous swelling. There is at first constipation, later on diarrhœa, and the

fæces are occasionally tinged with blood. Mucous membranes pale, eyes dull and present a peculiar look, which, to an experienced observer, indicate that the animal is suffering from worms.

In grave cases there is a rapid deterioration of condition and the appetite is entirely suppressed. Tenesmus becomes more severe, the fæces become quite fluid and very fœtid. At the same time the emaciation progresses rapidly, and the gait becomes staggering. There are also rises of pulse and temperature. The eyes are deeply sunk, the animals can no longer stand up, and they die from exhaustion.

As complications of the disease one can sometimes observe convulsions, and paroxysms of colic. The restlessness is remarkably violent ; the animal lies down and gets up, turning the head towards the abdomen, indicating the presence of pain.

FIG. 1.—Bots from the Elephant.

Classification of Parasites.—With a view to giving an outline of the species of parasites frequently met with in elephants the annexed genealogical table will facilitate the study of the individual parasite.

(1) *Bots.* (botus, a belly worm). The larvæ of certain species of flies of the genus Œstridæ, which are conveyed into the stomach.

The fly is about the size of a bee and of a dark greyish colour. They are generally most active from the month of June to the beginning of October, preferably during the hot days of July, August and September. The fly deposits its eggs particularly on the fore-parts of the bodies of the elephants. The eggs are swallowed and hatch in the pharynx, œsophagus, stomach and intestinal canals. Instances of deaths caused by these parasites are not uncommon in elephants.

(2) *Round Worms.*—The family *strongylidæ* includes a large group of blood-sucking worms. Wet seasons favour the development of

the disease, as moisture ensures the life of the embryo outside the body of the animal. The disease is most prevalent on low-lying and swampy lands. It may be spread by the ova being carried in a stream of water, or by infested animals being introduced into a herd. It is probably necessary for these worms to pass out of the host in order to complete a portion of their life history. If the ova fall into water or moist places they may remain alive for several months and subsequently develop into adult worms.

Of the sub-groups of round worms (*a*) *Ascaris Lonchoptera* are met with in common with other groups of the same family. The body is pinkish white in colour; the head is usually slightly curved, and is provided with two lateral membranous wings which are broader behind

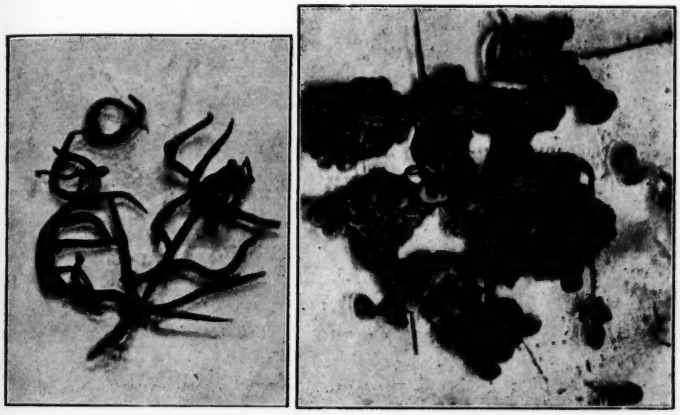


FIG. 2.—Ascaris Lonchoptera (Elephant).

than in front, and make the head resemble an Indian arrow. The parts infested are generally the small intestines.

(*b*) *Uncinaria* (*Ankylostomes*).—Under this species of worms we have two groups, viz.: (1) *Dochmius Sangari* (Cobbold) and *Uncinaria Os papiliatum* (Ostertag); (2) *Bathamostum Sangari*. They are very common in both Indian and Burmese elephants.

In *Fasciolidæ* group both Amphistomes and Liver Flukes are observed in elephants. Of 135 post-mortem examinations held by the writer, seven elephants were found to be suffering from both amphistomes and liver flukes.

Prophylaxis.—This consists in avoiding wet, marshy and suspicious pastures, and the separation of the sick animals as much as practicable. The animals should have access to good and, if possible, to running

water. The evacuated dungs should be collected and soaked with the strong solution of a chlorinated lime. As regards diet, a liberal allowance of salt should be given, as there is little or no chance for these working elephants to have recourse to the natural salt licks.

Medical Treatment.—Santonin and areca nut prove the most effectual parasiticides. Areca nut is an irritant to the bowels and acts as a vermifuge. The following combination gives good results in ridding the bowels of these worms :—

℞. Powdered areca nut, ʒi.
Crystal Santonin
Calomel $\overline{aa}$ ʒii.

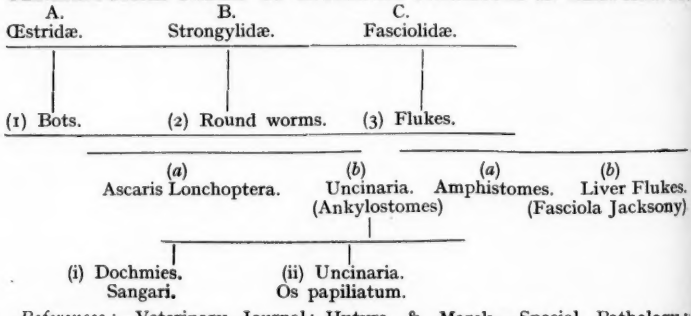
Mix Sig one dose at a time. Dose repeat in five days.

Method of Administering the above Recipe.—Tie the elephant up in the evening at about 6 o'clock and give him a dose of 8 ozs. Epsom salts. At 10 o'clock at night administer the above. A second dose of Epsom salts is to be given early next morning. The elephant is to be starved from 6 p.m. previous evening to 10 next morning.

Cachexia in the elephant is apt to be an accompaniment of parasitism, but it is a condition that calls for caution in the use of an anthelmintic. The cachectic animal should be put on a nourishing diet before treatment; but if it is necessary to administer anthelmintics immediately use one which is not a gastro-intestinal irritant. For this purpose santonin is to be recommended. It may be remembered that santonin is not a drug which gives good results in single dose treatment, even when in large doses, and I have used such doses as 1-120th of a grain for every pound of weight (the average weight of an elephant is 6,048 lbs.). Tonics in the form of arsenic. iron, nux vomica, and gentian are most useful during convalescence.

Other anthelmintic drugs such as thymol, oil of chenopodium, turpentine oil, and similar kinds have not, in my experience, proved successful in elephant practice.

GENEALOGICAL TABLE OF INTERNAL PARASITES IN ELEPHANTS.



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DIPPING AND ITS EFFECTS IN VENEZUELA.

By E. MORGAN, M.R.C.V.S., D.V.H.,
(*Puerto Cabello, Venezuela*).

It is almost as essential, as it is to feed animals, to dip them in an efficient standardised dip at regular intervals, more so in tropical countries, where ticks and other parasites are a pest to animals which suffer so much from other skin diseases, such as mange (saona), etc. In most countries dipping is now carried out systematically. Dipping tanks are fixed in various districts so as to make it as easy as possible, and so that the animals have not to travel long distances to and from the baths.

As a result of regular dipping it has been proved that extensive areas of land can be used for cattle breeding, which not long ago were considered to be dangerous to place cattle and other stock to pasture or even travel over. Deaths have been reduced in some countries by 80 per cent. as a result of regular dipping. Not only this, but the animals are able to thrive better and also yield better weights. They are healthier in all respects. Imagine the amount of blood these parasites—ticks—absorb from each animal! When they first adhere to the skin one can hardly see them with the naked eye, but when they get fully gorged one is able to see them at a distance; and they are now about one-third of an inch long and full of blood which they have deprived the host of. One can imagine the amount which is necessary to be drawn from one animal so as to fill thousands of these ticks. They cause, also, a great deal of annoyance to the animals, apart from the blood which they deprive them of, and often after they drop off the punctured skins are the seats of maggots, etc., owing to flies blowing on these injuries. But more serious still are the diseases they transmit. Chief amongst these is "Redwater," or "Tick-fever" (Tristeza) or better known as "Texas fever," because it was in Texas cattle that Smith and Kilborne discovered the blood parasite which causes the fever. They proved also that it was conveyed from one animal to the other by the *tick*. The disease is not so dangerous and fatal to animals bred in tick fever countries as it is to imported animals; to the latter it is fatal in the majority of cases. This small parasite, called "piroplasma," gets into the red corpuscles of the blood and breaks them down, with the result that the hæmoglobin or colouring matter of the blood is passed out with the urine, which is as dark as the blood itself, and finally the animals die very soon of anæmia and exhaustion.

One might ask: In which way will dipping prevent this tick infection, because, even if it kills the ticks which are attached at the time to the animal's body, yet the pastures being plagued with ticks,

others will attach themselves on again? Yes, they will; and that is the idea of dipping stock, which should be done by night at least once every fortnight, inasmuch as that the effects of the first dipping passes away in a week or so, *then the cattle will collect fresh ticks*, and these again should be destroyed by dipping before they get time to lay their eggs, as each tick lays thousands of eggs. The dipping does not usually destroy the ticks outright, but it takes several days for them to absorb the poison of the dip which has penetrated the animal's skin. Even if some of them drop to the ground alive, it has been proved that the poison has already destroyed their power of propagating any further offspring, and finally they shrivel up and die.

In some of the southern states of North America they have declared them free of ticks, as they made it compulsory to dip all the cattle there at regular intervals, so after several years they have been crowned with success, and in a few years hence it is expected that all the Southern States will be declared free of ticks and the number of deaths reduced to a minimum. Even with the expenses of labour, etc., at the time of dipping, they were then more than compensated with the weights and number of cattle saved. They were losing from one to two dollars on each hide, as the badly infected hides were punctured and could only be used for making low grade leather.

The best dip to be used is the arsenical dip, and Wm. Cooper, Son and Nephews, Berkhamsted, England, have been the pioneers and are second to none in preparing a most reliable arsenical dip, which is economical in all respects. It can be used by mixing with cold water (not *hot*, as used to be the case), and this saves a great deal of trouble in lighting fires out in the open. This is the dipping material which is used almost all over the world—even in the U.S.A.! And they are not too ready to accept foreign goods; yet they admit that it cannot be beaten, and it is considered as their universal dip. I believe the firm has a factory now in Chicago. It is waste of time and labour to use anything except a reliable dip. This firm, by supplying almost all the dipping stations of the world, are able to turn reliable material out cheaper, and they have made a special study of it.

It has been calculated that the cost of eradication is only about 2s. 6d. a head, so it should more than compensate in the hide alone. Cows yield at least one quart more milk daily when they are free of ticks and other parasites. I estimate that an average Venezuelan bullock, when put in a tick-infected potrero to fatten and dipped at regular intervals, will increase in weight from 10 to 15 per cent. more than if the animal was not dipped and allowed to be molested and deprived of blood by ticks.

So far as Venezuela is concerned nothing has been done in the way of dipping—at least as far as I know.

The worst areas by far are the fattening potreros in this country. I have noticed that ticks are by far more prevalent on cattle coming from the potreros than when they enter there. Cattle come from different areas and are crowded together on the potreros, more so than in the open plains. Burning the potreros seems to be one easy way to get rid of the pest, but it is also an easy way of destroying many of the finest or more delicate grasses which do not root deep in the soil.

Cattle should not be dipped during the course of a journey, but should rest a day or two at the journey's end before being immersed in an arsenical bath. All cattle should be dipped before entering the fattening potreros, especially so if it is intended to adopt a system of dipping to eradicate the ticks from the land. There should be a convenient quarantine potrero to hold the tick-infested animals, so as to rest after the journey before they are immersed.

They should endeavour to clean the potreros of ticks in the first place, then extend it to the plains. It is a big problem; all the same it should be tackled without further delay, so as not to be behind other countries on this important cattle question. It is outside the question altogether to expect fat grass-fed cattle where ticks are a plague.

This article also appeared in Spanish in *El Universal*, which is one of the two leading papers in Venezuela.

EVERSION OF THE UTERUS.

By GEORGE GAIR, M.R.C.V.S.
(Canon Bridge, Ross-shire).

THE first recognition of eversion of the uterus is by Hippocrates (Denuce, Traite clinique de, l'Inversion Utrine, Paris, 1883), who has directed a plan for its restoration. The same author quotes a passage from Aretosus, who not only describes the occurrence but also refers to the traction upon the umbilical cord as one of the causes. Such great authorities of ancient medicine as Moscheon, Galen, Paul of Ægina, and others, all refer more or less distinctly to the condition as an accident of child-birth in the human subject.

Eversion of the womb may be favoured by a relaxed state of the organ through over-distention, of rapid delivery or of hæmorrhage, the immediate cause being pressure exerted from before or traction from behind. The result may proceed from straining efforts or in attempts at placental expulsion before uterine contraction occurs. Henning concludes that attachment of the placenta to the fundus

instead of a more lateral attachment is an active cause of the accident. Hæmorrhage is occasionally seen and not infrequently the patient suffers and may even die of shock. Spontaneous reduction of incomplete eversion in the human subject is not uncommon. Spontaneous reduction of the complete form has likewise been observed due to retraction of the ligaments acting on the uterus when in a relaxed condition.

Various degrees may be observed, viz. :—

1. The fundus is depressed, a cup-like cavity being formed.
2. The fundus passes to the anterior part of the os uteri, the entire body of the organ participating in the displacement.
3. The fundus and body pass out of the vulva, the vagina then undergoing partial inversion.

In surveying the records of obstetric practice in the veterinary profession, one can scarcely realise the little progress made in regard to the methods used for retaining the returned organ in position. How painful to read in our periodicals of the methods used in this particular accident !

Sir Halliday Croom, Professor of Midwifery, Royal Infirmary, Edinburgh, said that the obstetrician should be the cleanest man on God's earth. Doubtless the veterinarian has done his best to attain to this high ideal, but can our profession claim to be the humanest of obstetricians ? When we consider the methods used to-day by some for the replacement and retention of the uterus in position, I fear we fail to attain the high ideal of humanitarianism. It certainly does not reflect credit on us to use means or instruments unnecessarily as is frequently done in this connection. Our periodicals record cases of eversion of the womb which after replacement was held in position by steel clamps. Our instrument makers' catalogues often include such instruments of torture for sale in the shape of vaginal clamps with steel prongs.

Undoubtedly many prongs piercing living tissue must cause severe pain. Cases are recorded in which vaginal clamps remained *in situ* for periods up to 13 months.

During long experience in an extensive country practice I have treated scores of cases of eversion of the womb in the cow and a few in mares, with highly satisfactory results and without resorting to the use of clamp or truss of any description. One or two cases in the cow which I recollect this moment may be mentioned :—

Case 1.—A cross shorthorn cow everted womb about 10 a.m. on Friday. On my arrival late Saturday evening, I found the animal

in a state of collapse. The organ was replaced and the cow made a good recovery without any mechanical means to retain the uterus in position. She had several calves afterwards.

CASE 2.—A polled cow with eversion of womb. The case was treated by the cattleman, who supposed he had returned the entire organ into position, but was unsuccessful. On arrival I found the cow straining badly with the fundus of the uterus protruding into the vagina.

Being about two days in this condition, considerable difficulty was experienced in returning the organ into its normal position, but when accomplished, the straining ceased and the animal soon regained her usual health. Again no clamp was used.

When the womb is properly replaced with due antiseptic precautions it is quite unnecessary to use any instrument. Indeed, it constitutes cruelty to animals to use such drastic and useless measures on organs which at this stage are in a highly sensitive condition.

TWO INTERESTING CASES OF ANIMAL INTELLIGENCE.

BY W. WALLIS, M.R.C.V.S.
(*Barnet.*)

BIRDS, especially pigeons, will, as we all know, find their way back home from places scores of miles away, and one frequently reads of animals who have done remarkable things in this direction.

The following two have come under my personal observation, and as I can truly vouch for them I think that they are worth placing on record.

A pony, 25 years old, which had been on a neighbouring farm ever since it was a yearling, was lent to a relative at Broxbourne (about 15 miles off), and it was taken there by road, a journey which it had only made five or six times. Some four months later I was surprised to see the animal standing in the road outside the gate, waiting to be admitted. It had come by itself, and evidently, from the condition of the coat, at a good pace. Upon opening the gate it at once went into its accustomed place in the stable.

The second case was that of a cat, bred on the same farm as mentioned above, which was given to a friend to take to his home some 12 miles away. It was placed in a sack and taken away in the back of a motor car, so that it could not have seen anything of the route during the journey. To the owner's surprise the cat walked into his house a fortnight later, it having found its way and returned alone, the distance between being a very rough cross-country journey.

The return of the horse did not surprise me very much, but the case of the cat has given me much food for reflection upon its sagacity.

Parliamentary.

FOOT-AND-MOUTH DISEASE.

MR. HURD asked the Parliamentary Secretary to the Ministry of Agriculture whether he could report progress on the experiments in this country for the treatment and prevention of foot-and-mouth disease; and whether inquiry is being made into the success which has attended new methods recently practised in Italy?

The Parliamentary Secretary to the Ministry of Agriculture (SIR ARTHUR BOSCAWEN): The Committee now investigating foot-and-mouth disease has not had sufficient time to make progress which would justify a report. The veterinary officers of the Ministry are aware of the attempts made in France, Italy and Switzerland to combat foot-and-mouth disease by serum treatment and vaccination. The results are not promising, however, owing to the fact that effective serum and vaccine cannot be produced until a method of artificially cultivating the virus has been discovered, and it is to this end that the Committee propose to devote most of their energies.

MR. HURD: Has the right hon. gentleman's attention not been called to this recent successful experiment in Italy, and will he call for a report as to these experiments, which are of most vital importance to the herds of this country?

SIR A. BOSCAWEN: I will call the attention of the Committee to the matter to which the hon. gentleman refers.

MR. LAMBERT: Can the right hon. gentleman give the farmers of the country any information as to the cause and where the infection comes which causes these sporadic outbreaks of foot-and-mouth disease?

SIR A. BOSCAWEN: I should be only too glad if I could, but that is the very point which this Committee is investigating. To give partial information before we have their report would be, I think, only misleading.

MR. HURD: Is it not a fact that 15 months ago the Board of Agriculture turned down the suggestion that they should make tests of the same kind that have now been made with such remarkable success?

SIR A. BOSCAWEN: I think we must wait for the report of the Committee.

Correspondence.

THE RAT PROBLEM.

To the Editor of THE VETERINARY JOURNAL.

SIR,—In the October issue of THE VETERINARY JOURNAL there appeared a letter under the above heading addressed to you by Mr. W. Rodier, of Melbourne, Australia, a copy of which he was good enough to forward to me, accompanied by several printed pamphlets, together with a further letter in which he directs my attention to certain statements in a booklet prepared by me entitled "The Rat Problem," an extract from which appeared in last February's issue of THE VETERINARY JOURNAL, and to which he takes exception. With your permission I will confine myself to the statements he refers to as being misleading. In reference thereto he states: "He refers to my system of rat destruction and says 'Rodier claims by the present methods more males are caught than females.'" This is not so and is misleading, as he should have added, "in proportion to the numbers of each sex born, or where the rats are in equal sexes." As a matter of accuracy, it should be pointed out that after the word "females" my sentence was completed with the following:—"With the result that those not caught live in a polygamous state." Assuming it to be correct, as Rodier states in the printed pamphlet he sent to me; and which is similar to the one from which I quoted, namely, "that the rats are at present polygamous and have been for hundreds of generations; that this causes more females to be born than males, and that consequently more are likely to be caught," then the words, "in proportion to the numbers of each sex born," might with advantage have been added as an explanation. In Rodier's printed pamphlet appears the following statement:—"A good many people no doubt will say that I am wrong when I say that more males are killed than females, and that the plans at present in use kill more females than males, and will back this statement up by giving the numbers that are caught, showing that more females are caught than males." Then he goes on to explain by figures and concludes by stating:—"Under these circumstances, although more females are killed than males, the rats actually increase because a lesser proportional number of females are killed than males to the numbers of each sex born." But he continues by making the following statement, namely:—"Now, the difficulty is to find out what are the numbers born of each sex, and that can only be found out by experimenting in enclosed areas." In another part of his pamphlet he states:—"Now, I am fully aware that a great many people will ridicule this plan, and say it is not so, but I wish to say to them that I have proven this plan to be an absolute and positive certainty with the rabbits in Australia over an area of 64,000 acres . . ." Then he says:—"Now, I don't say that I have proven it with the rat, as I am not in a position to do so, etc." Bearing in mind Rodier's admissions, the following statement in my pamphlet does not appear unreasonable, namely:—"Before considering the application of any such scheme, however, it would be desirable that the probability of its success should be thoroughly investigated not only be specially-designed experiments, but also as to whether its application could be

properly maintained throughout the country. In the latter part of his letter Rodier states, in referring to my remarks:—"Another misleading statement is where he says "again, it would be equally essential for all districts to be operating continuously in the same direction, otherwise, having regard to the migratory habits of the rodents, the scheme would be hopeless." "I take exception to these remarks and say it is not so, and ask him how he knows this." I think it only fair to state that I believe Mr. Rodier has completely misunderstood my remarks. I see no reason to make any alteration whatever. My remarks apply to this country only, and when I refer to rats being migratory, I am referring to their well-known habits of wandering—commonly in large numbers. How I know this is by personal observation extending over many years. As a matter of fact, the wandering or migratory habits of rats in this country is common knowledge. To repeat, supposing one took as an example an area consisting of several towns and cities in close proximity to one another, and surrounded by open country, with farms distributed here and there and then put Rodier's scheme into operation in any one of the thickly-populated towns within the area, although the scheme so far as its methods are concerned might be a correct one, the probability of its success would be almost hopeless, owing to the fact that new supplies of females would be forthcoming from the adjacent towns (within the area) where the scheme was not in operation. That would appear to be a perfectly good reason for my stating that it would be essential for all districts to be operating continuously in the same direction. Nevertheless, it would be interesting to have such a scheme tested by experimental inquiry. Were such shown by some recognised authority to be capable of bringing about the desired effect if universally applied, it would still remain necessary to obtain—by compulsion or otherwise—absolute co-operation by the public in every district within the kingdom, and which would have to be maintained, not forgetting the new supplies of rats arriving at our ports from abroad.—I am, Sir,

Yours faithfully,

Town Hall, Newcastle-upon-Tyne. THOMAS PARKER.
October 15, 1920.

Personal.

AMONGST a long list of our French *confrères* who have recently received high honours at the hands of their Government we notice the following, whose names will be familiar to many of the profession in England:—

Legion d'Honneur. Prof. Leclainche (Commander); Professors Nicholas and Lendrail (Chevaliers).

Ordre de Mérite Agricole. Profs. Cadiot and M. Victor Drouin, D.S.O. (Commanders); Inspector-General Fray, C.M.G., Professors Martin and Pavisset (Officers).

By the death of M. Joly the veterinary profession of France has lost a distinguished member, whose name and writings were well known.

For many years he had occupied the position of Veterinary Officer to the well-known Cavalry School of Saumur.

The Second International Congress of Comparative Pathology is to be held at Rome in April, 1921, under the Presidency of Prof. S. Perroncito, late Director of the Royal School of Veterinary Medicine attached to the University of Turin. Amongst the papers already suggested for discussion are influenza in man and animals, rabies, cancer, diseases of cattle, poultry and bees, various parasitic affections and nerve regeneration. The joining fee is only 40 lires, and arrangements will be made to facilitate the journey by the granting of specially reduced fares. The Secretary-General is Professor Mario Levi Dell Vida, 58, via Palermo, Rome, and the Secretary for the English Section is Professor Nuttall, F.R.S., Modingley Road, Cambridge.

Capt. H. B. Collett, R.V.Sc. (Toronto), M.R.C.V.S., a recent graduate of the London College, has recently been attached to the staff of the Ontario University Veterinary College, Canada.

THE French Government have recently awarded the "Medaille (en Argent) de la Reconnaissance Francaise" to Lieut.-Col. T. Dunlop Young, O.B.E., M.R.C.V.S., D.V.S.M., as a recognition of the assistance he and the officers of No. 23 Veterinary Hospital gave to the agriculturists and farmers in the district around St. Omer during the war.

THE FORMATION OF AN OLD COMRADES' ASSOCIATION OF THE ROYAL ARMY VETERINARY CORPS.

A VERY successful meeting was held on Friday evening, December 10, 1920, at the Royal United Services Institution, for the purpose of forming an Old Comrades' Association of the Royal Army Veterinary Corps.

Over 200 past and present members of all ranks of the R.A.V.C. were present.

MAJOR-GENERAL BLENKINSOP, C.B., D.S.O., addressed the meeting as follows:—

"You have been invited here this evening in order to consider the formation of an Old Comrades' Association of the Royal Army Veterinary Corps. It may be asked why an Old Comrades' Association should be formed. For this reason: Practically every regiment or corps in the British Army has got its Old Comrades' Association, and I see no reason why the R.A.V.C. should be behind, especially considering the good work and the great name it gained for itself in the war.

In the war you did better than any other veterinary corps in any previous campaign, or, for that matter, better than any other veterinary service in Europe in the late war.

After its good work came the period when the Army was being dispersed ; a very trying time, and those in the Corps at that time did exceptionally good work. As you all know, you took over the sick horses and the surplus animals at the time your comrades were being demobilised, leaving you, their old comrades, to dispose of these animals ; and I am glad to say it was a period during which the greatest credit is due to the R.A.V.C. We can congratulate ourselves on being the only Corps which had no regrettable incidents at demobilisation. Our men stuck to their work and held together, and our officers were able to call on them to do whatever was necessary.

This increased work was only accomplished through the good fellowship and good comradeship which existed throughout the Corps ; and having gained this good name in the war, and when you were serving, it would be a thousand pities if it were not maintained in civil life ; and for that reason, if for no other, the Corps should form an Old Comrades' Association.

I have been asked to explain some of the objects of the Association such as we are proposing to form.

(1) To foster *esprit-de-corps* amongst all ranks, serving and retired, of the Royal Army Veterinary Corps.

(2) To have branches throughout the various T.F. areas and other centres : these branches to hold quarterly meetings and an annual re-union, where we hope old members of the Corps will meet together.

(3) To circulate information regarding the Corps to past members of the Corps.

(4) To recommend the Corps to eligible young men who are desirous of joining the Army. We want past members to assist us in getting a good stamp of young men to come forward for the regular Corps and also for the T.F. It is very important that we should get good material to carry on the good name which you fellows have already gained.

(5) To assist deserving members on leaving, or who have left the Corps, to obtain employment. If the Association is properly organised it will do a great deal to assist those deserving cases who have fallen on hard times and also help greatly the men who are leaving or have left the Corps. Most of us have been connected with animals, and the passing of the horse and the introduction of motor traction makes it difficult for those whose business is connected with the horse to find employment.

(6) We have in the Corps a Benevolent Fund, and we hope if the Association is formed it will be able to bring deserving cases to the notice of the Fund, in order that they may be assisted. We have not money enough to assist everybody. If men are down and want help, a certain amount of money is there and we shall disperse it to the best advantage and to the most deserving cases. These cases are very difficult to find, but the Association will be in a position to find them.

(7) Another object of the Association is to ensure as far as possible decent interment to any member whose family is not in a position to provide it. It is hoped that this will not often be necessary, and that our men may never die, but merely fade away.

MAJOR-GENERAL SIR FREDERICK SMITH then proposed :—

"That an Old Comrades' Association for the Royal Army Veterinary Corps be started forthwith."

He said that the objects of the Association must appeal to all of us. *Esprit de corps* would be fostered if we could bring together old comrades, both commissioned and other ranks. He considered that of all the objects mentioned, the endeavour to find employment for those who had borne the heat and burden of the day appealed to him most, and he hoped that some serious work would be done in that direction. He felt too that the more deserving cases could be more easily enquired into through the facilities afforded by the periodical meetings of old comrades. He therefore had much pleasure in proposing the formation of the Association.

R.S.M. WARBURTON, speaking as one of the earliest members of the Corps, seconded the proposal, which was carried unanimously.

MAJOR F. G. T. HOBDAY proposed that the Director-General, R.A.V.C., be the President of the Association. He, Major Hobday, considered that no one could know better the ways and means of utilising an Association of this kind. The Director-General would always be the hub to which members would converge. By his election we would be doing the right thing, particularly the right thing on this occasion. The distribution of the benefits of this Association could not be in better hands.

LIEUT.-COL. WADLEY seconded the proposal, which was carried unanimously.

The following officers were unanimously elected Vice-Presidents :—

Major-General H. Thompson, C.B.
Major-General Sir F. Smith, K.C.M.G., C.B.
Major-General Sir R. Pringle, K.C.M.G., D.S.O.
Colonel W. B. Walters, C.B.
Lieut.-Col. R. C. Cochrane, C.B.E.

MAJOR CAMPEY was elected as Hon. Treasurer and R.S.M. Carr as Hon. Secretary.

The following were elected a Provisional Committee :—

AS EX-OFFICIO MEMBERS :—

D.Ds.V.S. Home Commands,
A.Ds.V.S. Home Commands.
D.A.D.V.S. London District.
D.A.D.V.S. Territorial Divisions.
The Officer i-c. Records, R.A.V.C.
The Assistant Director-General.
O.C. Depot, R.A.V.C.

AS MEMBERS :—

Lieut.-Col. G. C. O. Fowler,
Colonel Kay Lees,
Lieut. Hines,
R.S.M. Batts,
W. S. King, Esq., M.B.E.,M.R.C.V.S.
Capt. Davis, M.B.E.,
Major Hobday, C.M.G.
R.S.M. Warburton.
Lieut. Sutton, M.B.E.,
Mr. Standley,
Mr. Horsfield,
Mr. Fisher,
Mr. Henderson,
Mr. Willie,
Mr. Dalrymple Hay,

The sum of 5s. was agreed to as the annual subscription, and it was agreed to arrange a dinner and re-union at an early date.

GENERAL BLENKINSOP, in thanking everybody for attending the meeting and for the successful way it had been carried out, said he was sure we should have one of the most successful Old Comrades' Associations in the British Army.

NOTICES.

All communications should be addressed to 8, Henrietta Street, Covent Garden, London, W.C.2. Telephone : Gerrard 4646. Telegrams : "Baillière Rand, London."

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